

NOMENCLATURE OF THE SPOTTED TRIGGERFISH, *BALISTES PUNCTATUS*, OF THE EASTERN ATLANTIC.—In reviewing the systematics of Balistidae in the western Atlantic, I discovered that the earliest name applicable to the spotted triggerfish of the eastern Atlantic is *Balistes punctatus* Gmelin 1788. I also determined that *Balistes forcipatus* Gmelin 1788 is synonymous with *B. capriscus* Gmelin 1788. The name *B. forcipatus* has been used for the spotted triggerfish of the eastern Atlantic, and on several occasions has been applied to specimens from the western Atlantic.

Apparently *B. punctatus* is confined to the eastern Atlantic. Records of its occurrence in the western Atlantic are based either on the type descriptions of *B. spilotopterygius*

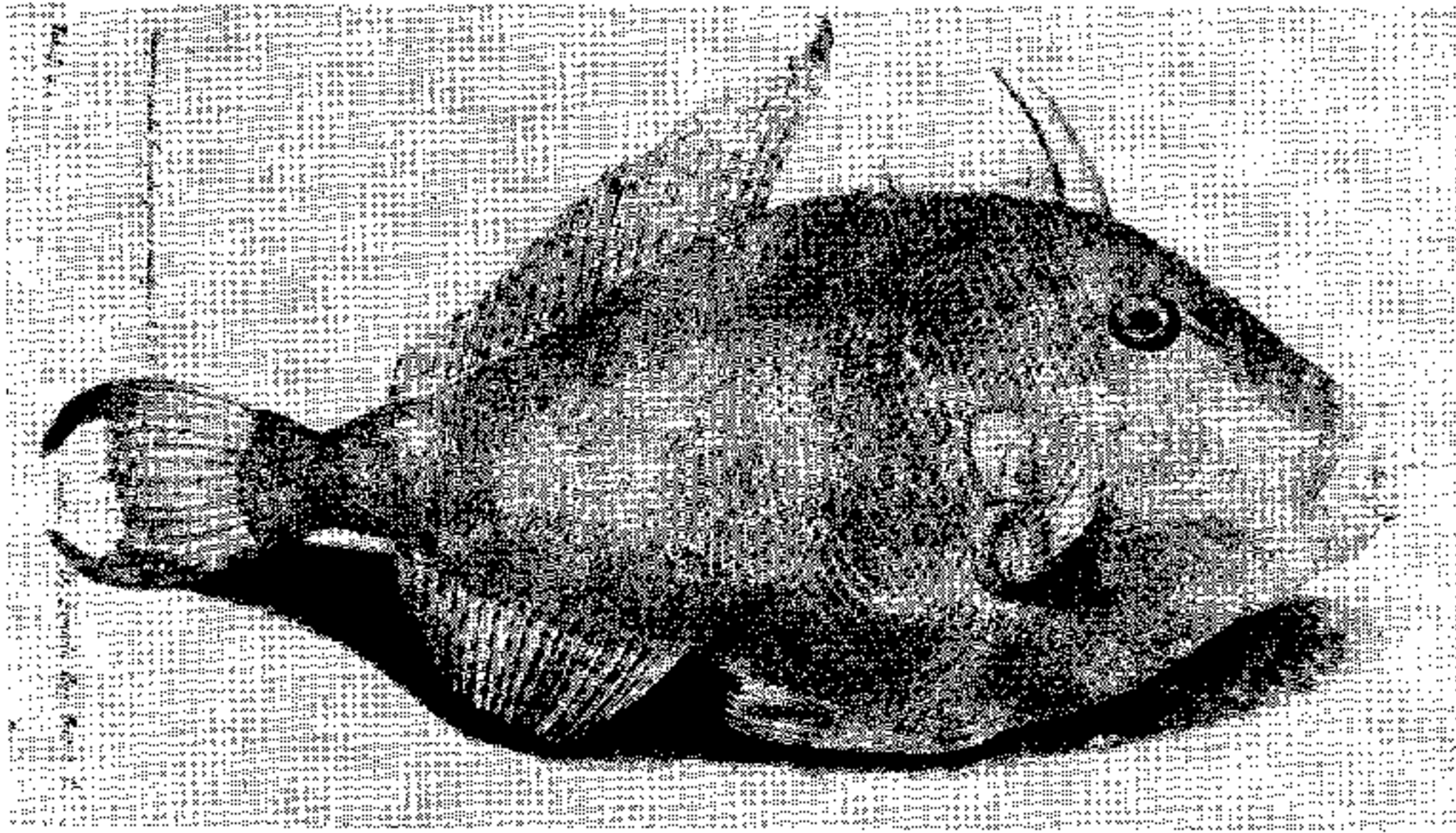


Fig. 1. Photograph of *Guaperva cauda forcipata* (= *B. capriscus*), from Willughby (1686: pl. I22).

Walbaum, *B. powelli* Cope, or *B. moribundus* Cope which Jordan and Evermann (1898:1702) listed as junior synonyms of *B. forcipatus*, or on the belief that the type specimen of *B. punctatus* was taken in the West Indies. I have not been able to determine the type locality of *B. punctatus*.

Balistes punctatus Gmelin, 1788

Spotted triggerfish

Balistes punctatus Gmelin, 1788:1472, after stipvisch in: Nieuhof, 1682:274-275 (locality not given).

Balistes guttatus Walbaum, 1792:467 (locality not given).

Balistes ciliaris Bloch and Schneider, 1801: 471 (locality not given).

Balistes radiata Bowdich in: Bowdich, 1825: 233, fig. 45 (St. Jago Island).

Balistes dicrostigma (Guichenot) Duméril, 1861:261 (Gorée) *nomen nudum*.

Balistes liberiensis Steindachner, 1867:9-11, fig. 3 (Monrovia).

B. punctatus Gmelin is the first available name given to the eastern Atlantic *Balistes*

that has many dark round spots on the body and several filamentous rays in the second dorsal fin. The description of stipvisch (misprinted stipvis) in: Nieuhof (1682:274) resembles the eastern Atlantic spotted *Balistes* that has been incorrectly called *B. forcipatus* by many authors. The illustration given by Willughby (1686:pl. I22, see Fig. 1), to which Gmelin (1788:1472) referred in describing *B. forcipatus*, is of *B. capriscus*. Stipvisch (= *B. punctatus*) was described again and illustrated by Nieuhof in: Willughby (1686:append. p. 7, pl. 9, fig. 4, see Fig. 2).

The description of *B. ciliaris* Bloch and Schneider, is a composite that refers to *Guaperva* etc. of Lister in: Willughby (1686: append. p. 21) and Willughby (1686:pl. I22) as well as to stipvisch in: Nieuhof (1682: 274). However, the pectoral fin ray counts (13/13) given for *B. ciliaris* are referable to *B. punctatus*, not *B. capriscus*. *B. radiata* Bowdich and *B. liberiensis* Steindachner both have descriptions and illustrations referable to *B. punctatus*. LeDanois (1961:515) iden-

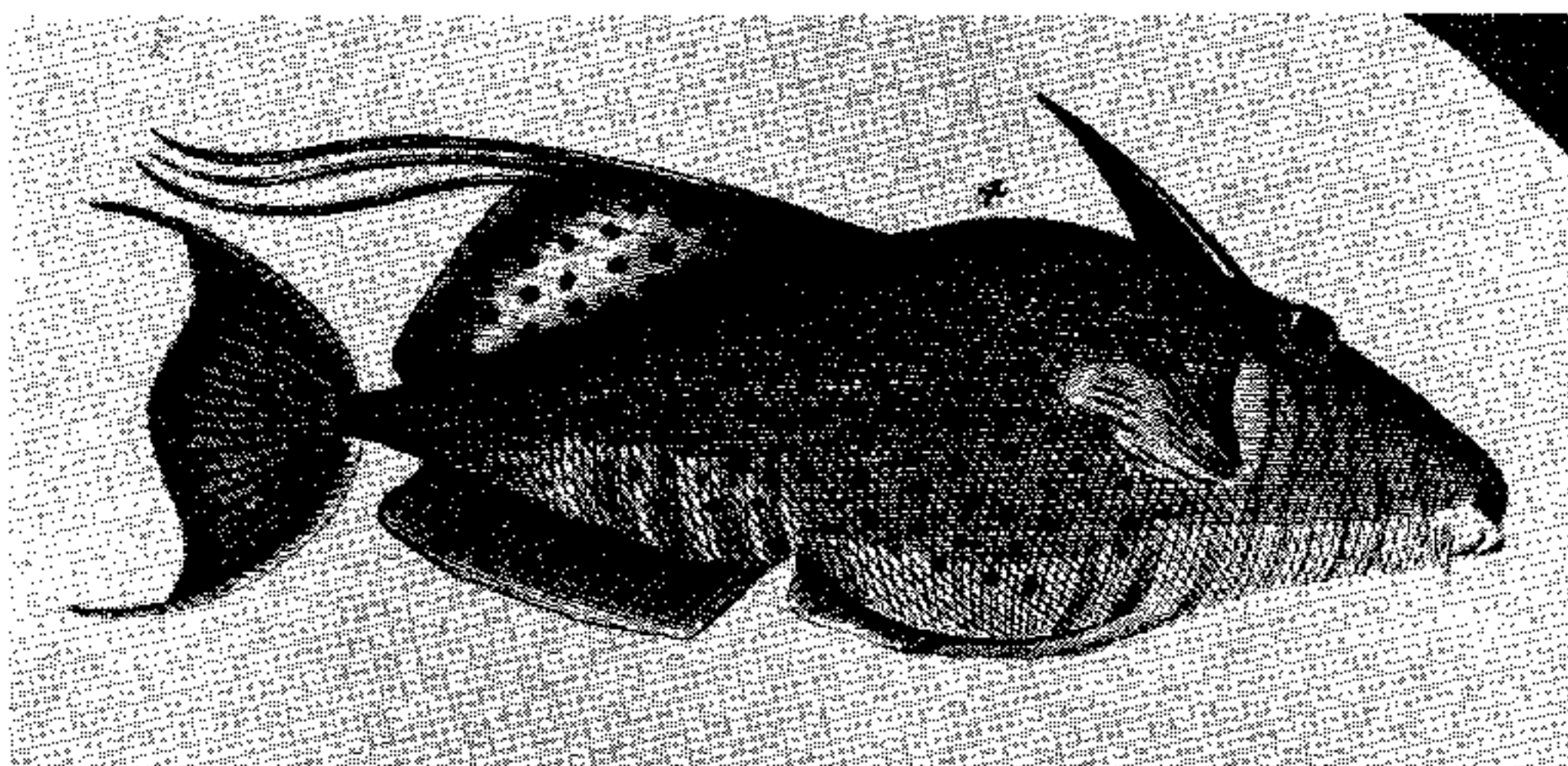


Fig. 2. Photograph of *Stipvisch* (= *B. punctatus*), from Willughby (1686: Appendix pl. 9, fig. 4).

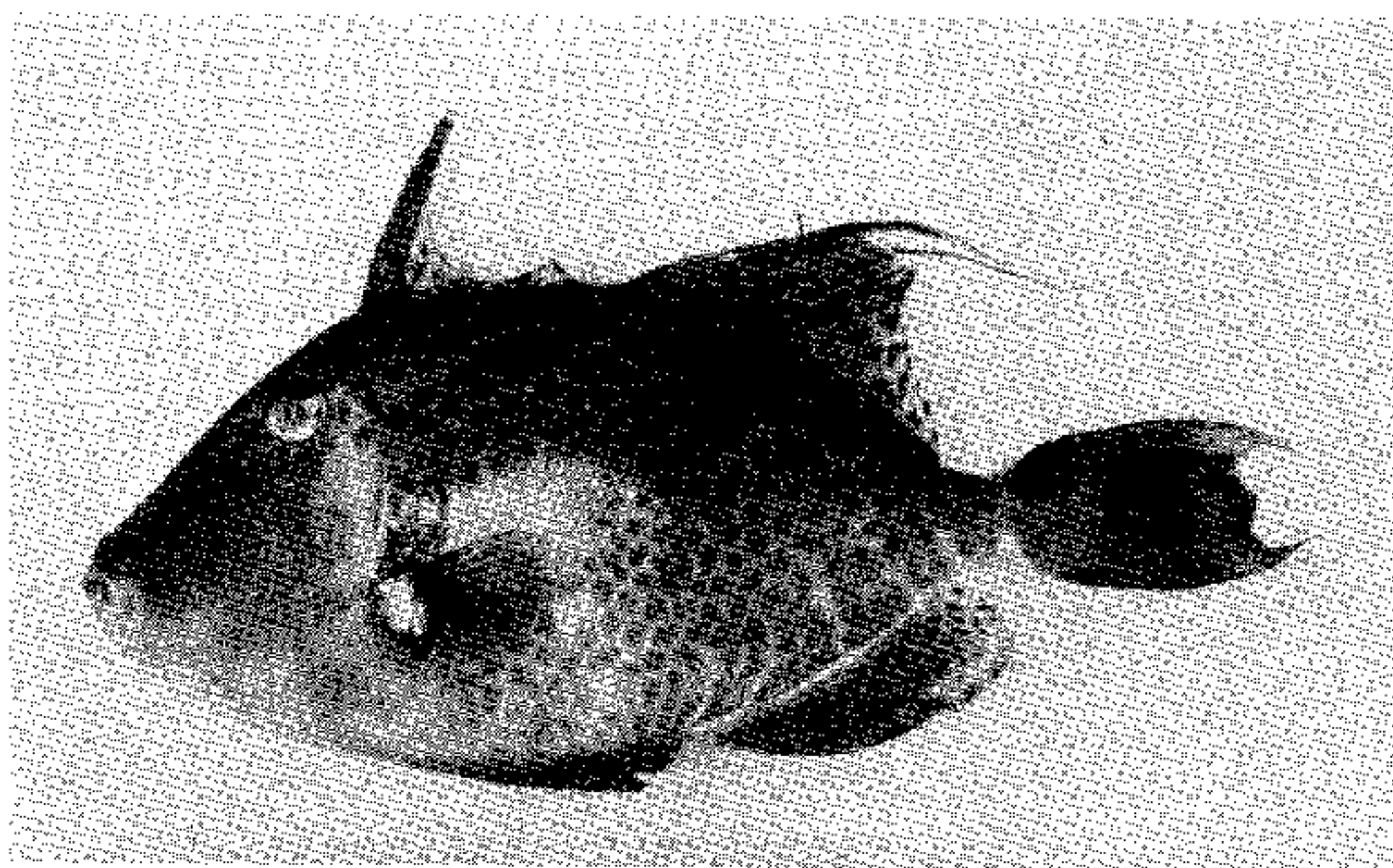


Fig. 3. *Balistes punctatus*, adult, 193 mm SL (USNM 197498).

tified the specimen of *B. dicrostigma* Guichenot as *B. forcipatus* (= *B. punctatus*). *Nematobalistes* Fraser-Brunner (1935:661) was supposedly distinguished from *Balistes* by the elongated second dorsal rays. I follow most subsequent authors in regarding it as a junior synonym of *Balistes*.

Balistes punctatus has a generally gray body with rounded dark or blue spots covering most of the body posterior to the eye (Fig. 3). On fresh adult specimens (Fig. 3), dark or light smaller spots may be found on the cheeks and snout (see also Poll, 1959: fig. 81, pl. 7). About five light lines radiate antero-ventrally from the eye, and two curved light lines extend backward and downward across the snout just back of the mouth. An area posterior to the gill slit lacks spots or lines. The area anterior and ventral to the pectoral base, that also lacks spots or lines on the specimen illustrated in Fig. 3, had about eight vertical light lines on a fresh specimen illustrated by Poll (1959: pl. 7, figs. 1, 2). The vertical wavy lines immediately above the anal fin base on Fig. 3 are more pronounced on Poll's illustrations. A large dark saddle is often present over the dorsal portion of the caudal base. Dark spots are present on the dorsal and anal fins, and the dorsal and ventral margins of the caudal fin, but are absent from the pectoral. The caudal has a vertical light band near its distal end. In smaller juveniles the radiating and curved lines on the head are present, but the dark spots on the side are less numerous.

The anterior end of the second dorsal fin is elevated and in adult specimens the second through the sixth fin rays are elongated—three or four are filamentous and separated

(Fig. 3). The anterior part of the anal fin is not elevated. This combination of adult characters is diagnostic of this species. In small juveniles, the anterior rays of the second dorsal fin are slightly produced, but none is elongated or separated. The number of pectoral rays is consistently lower (13/13 or 12/13) than in other *Balistes* species studied in the western Atlantic [a few *Balistes capriscus* have 13/14 pectoral rays] (Moore, in press).

The known range of *B. punctatus* is the eastern Atlantic, the Madeira, Canary, and Cape Verde islands, and along the coast of West Africa from Spanish Sahara to Angola.

I am grateful to those who assisted me in this study. Specimens were made available by: James E. Böhlke, Academy of Natural Sciences of Philadelphia (ANSP); Warren G. Freihofer, Stanford University (SU); and Leonard P. Schultz, U. S. National Museum (USNM). James E. Böhlke furnished the photographs in Figs. 1 and 2 and George C. Miller the photograph in Fig. 3. Frederick H. Berry and Jack W. Gehringer gave many helpful suggestions on the manuscript.

Bureau of Commercial Fisheries Biological Laboratories, Contribution No. 87, Brunswick, Georgia, and Contribution No. 217, Galveston, Texas.

LITERATURE CITED

- BLOCH, M. E. AND J. G. SCHNEIDER. 1801. *Systema ichthyologiae iconibus ex illustratum*. Berolini.
 BOWDICH, [S.] 1825. *Fishes of the Gambia*. Appendix pp. 233–238 In: T. E. Bowdich, *Excursions in Madeira and Porto Santo during the autumn of 1823, while on his third voyage to Africa*. George B. Whittaker, London.
 DUMÉRIL, A. H. A. 1861. *Poissons de la côte*

- occidentale d'Afrique. Arch. Mus. Hist. Nat. Paris 10:241-268.
- FRASER-BRUNNER, A. 1935. Notes on the plecognath fishes. 1. A synopsis of the genera of the family Balistidae. Ann. Mag. Nat. Hist., Ser. 10, 15(70):658-663.
- GMELIN, J. F. 1788. Pisces. In: Systema naturae . . . Caroli A. Linné. Editio decima tertia, aucta, reformata. Lipsiae, 1(3):1126-1516.
- JORDAN, D. S. AND B. W. EVERMANN. 1898. The fishes of North and Middle America. Bull. U. S. Nat. Mus. 47(2):1241-2183.
- LEDANOIS, Y. 1961. Catalogue des types de poissons du Muséum National d'Histoire Naturelle. Familles des Triacanthidae, Balistidae, Monacanthidae et Aluteridae. Bull. Mus. Nat. Hist. Nat., Ser. 2, 32(6):513-527.
- MOORE, D. In press. Triggerfishes (Balistidae) of the western Atlantic. Bull. Mar. Sci.
- NIEUHOFF, J. 1682. Gedenkwaerdige zee en lantreize door de voornaemste lanschappen van West en Oostindien. Pt. 2. Amsterdam.
- POLL, M. 1959. Poissons. V. Téléostéens acanthoptérygiens (deuxième partie). In: Résultats scientifiques; Exped. Océanogr. Belge Eaux Côt. Afr. Atlan. Sud (1948-1949). Inst. Royal Sci. Nat. Belgique, 4(3B):1-417.
- STEINDACHNER, F. 1867. Über einige Meeresfische aus der Umgebung von Monrovia in Westafrika. [Pp. I-II.] Sitzber. Akad. Wiss. Wien 55:517-528.
- WALBAUM, J. J. 1792. Petri Artedi sueci genera piscium in quibus systema totum ichthyologiae proponitur. . . . Ichthyologiae, Pars 3, Grypeswaldiae.
- WILLUGHBY, F. 1686. De historia piscium libri quatuor . . . and Appendix ad historiam naturalem piscium. Jussu et Sumptibus Societatis Regiae, Oxonii. (One volume with combined plates section.)
- DONALD MOORE, *Bureau of Commercial Fisheries Biological Laboratory, Galveston, Texas 77550.*